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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/757,331	01/14/2004	Robert A. Ashworth	040020	3466

23464 7590 03/08/2007  
BUCHANAN INGERSOLL & ROONEY PC  
P.O. BOX 1404  
ALEXANDRIA, VA 22313-1404

EXAMINER
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RIDLEY, BASIA ANNA

ART UNIT	PAPER NUMBER
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1764

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/08/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/757,331

Applicant(s)

ASHWORTH, ROBERT A.

Examiner

Basia Ridley

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1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>20050429</u> . | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 101*

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claim 2 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any structural elements or structural cooperative relationships of elements, results in an improper definition of an apparatus, i.e., results in a claim which is not a proper apparatus claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966). In an apparatus claim, the structure which goes to make up the device must be clearly and positively specified. The structure must be organized and correlated in such a manner as to present a complete operative device. Examiner notes that single patent application can not be both, a utility application and design application.

### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-2 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the limitation that reads, "introducing any carbonaceous fuel; coal, coke, biomass or combinations thereof containing mercury" renders the claim indefinite. It is not clear if all the

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items following the term “introducing” should be present in the system or if one of them is selected as the component of the stream. It is not clear if any carbonaceous fuel can be used or if the claim is limited to specific fuels recited. The claims should be rewritten in proper alternative language.

In claim 1, the limitation that reads, “introducing an alkali or any alkali or combinations thereof from the class consisting of lime, limestone, dolomite, calcium chloride, nacholite, and trona” renders the claim indefinite. It is not clear if all the items following the term “introducing” should be present in the system or if one of them is selected as the component of the stream. It is not clear if any alkali can be used or if the claim is limited to specific alkalis recited. The claims should be rewritten in proper alternative language.

In claim 1, limitation “at a stoichiometric air or oxygen air to fuel ratio of 0.4 to 0.80” is not clear and renders said claim indefinite. The applicant should amend the claim to recite either oxygen to fuel ratio or air to fuel ratio and clearly identify said ratio as either stoichiometric or a specific number or range.

Claim 1 is indefinite because it is not clear if recited temperature is required for the claimed process or if it is merely another way of describing properties of reducing agents.

Claim 1 recites the limitation “the fuel gas-slag mix section” and “said molten slag containing combinations of alkalis and mercury compounds” There is insufficient antecedent basis for said limitations in the claim.

Claim 2 provides for the use of an apparatus, but, since the claim does not set forth any structural elements or structural cooperative relationships of elements, it is unclear what apparatus applicant is intending to encompass. A claim is indefinite where it merely recites a use without any structural elements or structural cooperative relationships of elements delimiting the apparatus wherein how this use is actually practiced. In an apparatus claim, the structure which goes to make

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up the device must be clearly and positively specified. The structure must be organized and correlated in such a manner as to present a complete operative device. Examiner notes that single patent application can not be both, a utility application and design application.

Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: any structural elements delimiting the claimed apparatus. In an apparatus claim, the structure which goes to make up the device must be clearly and positively specified. The structure must be organized and correlated in such a manner as to present a complete operative device. Examiner notes that single patent application can not be both, a utility application and design application.

Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: any structural cooperative relationships of elements delimiting the claimed apparatus. In an apparatus claim, the structure which goes to make up the device must be clearly and positively specified. The structure must be organized and correlated in such a manner as to present a complete operative device. Examiner notes that single patent application can not be both, a utility application and design application.

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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6. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by McElroy (USP 1,571,877).

Regarding claim 1 McElroy discloses a method comprising introducing carbonaceous fuel into a first stage partial oxidation gasifier; introducing lime with the said fuel or via a separate stream (see Fig. 1). While the reference does not explicitly disclose mercury being removed, as coal inherently comprises mercury, said mercury will inherently be removed by the process of McElroy.

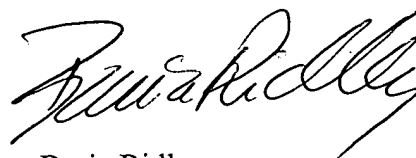
***Conclusion***

7. In view of the foregoing, none of the claims are allowed.
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Basia Ridley, whose telephone number is (571) 272-1453.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola, can be reached on (571) 272-1444.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Technical Center 1700 General Information Telephone No. is (571) 272-1700. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Questions on access to the Private PAIR system should be directed to the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).



Basia Ridley  
Primary Examiner  
Art Unit 1764

BR  
March 5, 2007